IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method of generating a monaural signal ~~(S)~~ comprising a combination of at least two input audio ~~channels (L, R)~~signals, said method comprising the steps of:

dividing said at least two input audio signals into a plurality of sequential segments;

summing, for each of ~~a plurality of~~the sequential segments ~~(t(n))~~ of said audio ~~channels (L,R)~~signals, ~~summing (46)~~ corresponding frequency components from respective frequency spectrum representations for each audio ~~channel (L(k), R(k))~~signal to ~~provide~~ form a set of summed frequency components ~~(S(k))~~ for each sequential segment;

calculating, for each of ~~said plurality of~~the sequential segments, ~~calculating (45)~~ a correction factor ~~(m(i))~~ for each of a plurality of frequency bands (i) as function of the energy of the frequency components of the summed ~~signal~~ frequency components in said band ($\sum_{k\in i}|S(k)|^2$) and the energy of said frequency components of the input audio ~~channels~~ signals in said band ($\sum_{k\in i}\left\{|L(k)|^2+|R(k)|^2\right\}$);

~~and~~

correcting ~~(47)~~ each summed frequency component as a function of the correction factor (m(i)) for the frequency band of said component; and

outputting said corrected summed frequency components as said monaural signal.

2. (Currently Amended) ~~A~~ The method ~~according to~~as claimed in claim 1, wherein said method further ~~comprising~~ comprises the steps of:

providing ~~(42)~~ a respective set of sampled signal values for each of a plurality of sequential segments for each input audio ~~channel~~signal; and

transforming, for each of said plurality of sequential segments, ~~transforming (44)~~ each of said set of sampled signal values into the frequency domain to provide ~~said~~ complex frequency spectrum representations of each input audio ~~channel (L(k),R(k))~~signal.

3. (Currently Amended) ~~A~~ The method ~~according to~~as claimed in claim 2, wherein the step of providing said sets of sampled signal values comprises:

combining, for each input audio ~~channel~~signal, ~~combining~~ overlapping segments ~~(m1,m2)~~ into respective time-domain signals representing each ~~channel~~ input audio signal for a time window ~~(t(n))~~.

4. (Currently Amended) ~~A~~ The method ~~according to~~as claimed in claim 1, wherein said method further ~~comprising~~ comprises the step of:

converting, for each sequential segment, ~~converting (48)~~ said corrected frequency spectrum representation of said summed ~~signal (S'(k))~~frequency components into the time domain.

5. (Currently Amended) ~~A~~ The method ~~according to~~as claimed in claim 4, wherein said method further ~~comprising~~ comprises the step of:

applying overlap-add ~~(50)~~ to successive converted summed signal representations to provide a final summed signal~~(s1,s2)~~.

6. (Currently Amended) ~~A~~ The method ~~according to~~as claimed in claim 1 wherein two input audio ~~channels~~ signals are summed, and wherein said correction factors (m(i)) are determined according to the function:

$$m^2(i) = \frac{\sum_{k \in i} \left\{ |L(k)|^2 + |R(k)|^2 \right\}}{2\sum_{k \in i} |S(k)|^2} = \frac{\sum_{k \in i} \left\{ |L(k)|^2 + |R(k)|^2 \right\}}{2\sum_{k \in i} |L(k)+R(k)|^2}.$$

7. (Currently Amended) ~~A~~ The method ~~according to~~as claimed in claim 1, wherein two or more input audio ~~channels~~signals ~~(X_n)~~ are summed according to the function:

$$S(k) = C(k) \sum_n w_n(k) X_n(k)$$

wherein C(k) is the correction factor for each frequency component, and wherein said correction factors ~~(m(i))~~ for each frequency band are determined according to the function:

$$m^2(i) = \frac{\sum_n \sum_{k \in i} |w_n(k) X_n(k)|^2}{n \sum_{k \in i} \left| \sum_n w_n(k) X_n(k) \right|^2}$$

wherein wn(k) comprises a frequency-dependent weighting factor for each input ~~channel~~audio signal.

8. (Currently Amended) ~~A~~ The method ~~according to~~as claimed in claim 7, wherein $w_n(k)=1$ for all input audio ~~channels~~signals.

9. (Currently Amended) ~~A~~ The method ~~according to~~as claimed in claim 7, wherein $w_n(k)\neq 1$ for at least some of the input audio ~~channels~~signals.

10. (Currently Amended) ~~A~~ The method ~~according to~~as claimed in claim 7, wherein the correction factor for each frequency component ~~(C(k))~~ is derived from a linear interpolation of the correction factors ~~(m(i))~~ for at least one band.

11. (Currently Amended) ~~A~~ The method ~~according to~~as claimed in claim 1, wherein said method further ~~comprising~~ comprises the steps of:

determining, for each of said plurality of frequency bands, ~~determining~~ an indicator ~~(α(i))~~ of the phase difference between frequency components of said audio ~~channels~~ signals in a sequential segment; and

prior to summing corresponding frequency components, transforming the frequency components of at least one of said audio ~~channels~~ signals as a function of said indicator for the frequency band of said frequency components.

12. (Currently Amended) ~~A~~ The method ~~according to~~as claimed in claim 11, wherein said transforming step comprises operating the following functions on frequency components ~~(L(k), R(k))~~ of left and right input audio ~~channels (L,R)~~signals:

$$L'(k) = e^{jc\alpha(i)}L(k)$$
$$R'(k) = e^{-j(1-c)\alpha(i)}R(k)$$

wherein 0 • c • 1 determines the distribution of phase alignment between the said input ~~channels~~audio signals.

13. (Currently Amended) ~~A~~ The method ~~according to~~as claimed in claim 1, wherein said correction factor is a function of a sum of energy of the frequency components of the summed signal in said band and a sum of the energy of said frequency components of the input audio ~~channels~~ signals in said band.

14. (Currently Amended) ~~A component (S8')~~An apparatus for generating a monaural signal from a combination of at least two input audio ~~channels~~signals ~~(L, R)~~, comprising:

a segmenter for dividing said at least two input audio signals into a plurality of sequential segments;

a summer ~~(46) arranged to sum~~for summing, for each of ~~a plurality of~~the sequential segments ~~(t(n))~~ of said audio ~~channels (L,R)~~signals, corresponding frequency components from respective frequency spectrum representations for each audio ~~channel (L(k), R(k))~~signal to ~~provide~~ form a set of summed frequency components ~~(S(k))~~ for each sequential segment;

means for calculating ~~(45)~~ a correction factor ~~(m(i))~~ for each of a plurality of frequency bands (i) of each of said plurality of sequential segments as function of the energy of the frequency components of the summed ~~signal~~ frequency components in said band ($\sum_{k\in i}|S(k)|^2$) and the energy of said frequency components of the input audio ~~channels~~ signals in said band ($\sum_{k\in i}\left\{|L(k)|^2+|R(k)|^2\right\}$); and

a correction filter ~~(47)~~ for correcting each summed frequency component as a function of the correction factor ~~(m(i))~~ for the frequency band of said component, said correction filter outputting the monaural signal.

15. (Currently Amended) An audio coder including the ~~component of~~apparatus as claimed in claim 14.

16. (Currently Amended) ~~Audio~~ An audio system comprising an audio coder as claimed in claim 15, and a compatible audio player.